

CLAIMS

What is claimed is:

1. A hardtop vehicle roof for a vehicle body (100) with an interior space comprising front, intermediate and rear rigid roof parts (102, 103, 104), which are movable between a closed position, in which they are disposed in a longitudinal vehicle direction one behind the other so as to cover an interior vehicle space, and a storage position, in which they are disposed removed from said interior vehicle space, said rigid roof parts being jointly supported on said vehicle body (100) by way of said intermediate roof part (103), a roof support and operating mechanism (109) mounted on said vehicle body (100) and connected to said intermediate roof part (103), and a roof part actuating mechanism (112) including actuating link structures (115, 116) disposed between said intermediate roof part (103) and said front- and respectively rear roof parts (102, 104) for supporting said front and rear roof parts (102, 104) on said intermediate roof part (103), means (148) for actuating said roof support and operating mechanism (109), and operating link means (122, 123) interconnecting said actuating link structures (115, 116) for actuating said roof support and operating mechanism and said actuating link structures (115, 116) for moving said front and rear roof parts in stacked relationship with said intermediate roof part (103) during opening of said roof such that, in said storage position, said intermediate roof part (103) is disposed in a roof part packet at the bottom and said front and rear roof parts (102, 104) are disposed above

said intermediate roof part (103), said operating link means including a pivot arm (117) pivotally supported on said intermediate roof part (103) and operating links (122, 123) connected to said pivot arm and extending therefrom in opposite directions to said actuating link structures (115, 116) for moving said front and rear roof parts (102, 104) relative to said intermediate roof part (103).

2. A hardtop vehicle roof according to claim 1, wherein said roof support and operating mechanism (109) includes support arms (144, 145), and a drive link (147) extends between one of said support arms (145) and said pivot arm (117) for operating said actuating link structures (115, 116) upon movement of said intermediate roof part, said drive link (147) and said support arm (145) connected thereto extending in the closed position of said roof upwardly and forwardly along said roof.

3. A hardtop vehicle roof according to claim 2, wherein, in the closed position of the vehicle roof, said drive link (147) and said pivot arm (117) are forwardly inclined.

4. A hardtop vehicle roof according to claim 2, wherein said pivot arm (117) is pivotally supported on said intermediate roof part (103) by a pivot joint (118), which, in the closed position of the vehicle roof (101), is displaced from a pivot joint (121) by which said drive link (147) is connected to said pivot arm (117).

5. A hardtop vehicle roof according to claim 1, wherein said pivot arm (119) is pivotally supported so as to be pivotable in a vertical plane extending in the longitudinal direction of said vehicle.

6. A hardtop vehicle roof according to claim 1, wherein said actuating mechanism (112) includes said actuating link structures (115, 116) in the transition areas to the front and rear roof parts (102, 104).

7. A hardtop vehicle roof according to claim 6, wherein one of said actuating link structures (116) is a four-link operating mechanism.

8. A hardtop vehicle roof according to claim 7, wherein said four-link operating mechanism for said rear roof part has a basis which is stationary with respect to the intermediate roof part (103).

9. A hardtop vehicle roof according to claim 8, wherein said actuating link structure (116) for said rear roof part (104) is connected to said actuating mechanism by way of an operating link (123), a guide arm (160), a connector link (141) and a side arm (137) and said connector link (141) cross the basis line of said four-link structure (116).

10. A hardtop vehicle roof according to claim 9, wherein said side arm (137) extends from said drive arm (114) of the operating mechanism (110) of said rear roof part (104).

11. A hardtop vehicle roof according to claim 1, wherein said actuating link structure (115) for said front roof part (102) is a five-link mechanism.

12. A hardtop vehicle roof according to claim 11, wherein said five-link mechanism has a basis which is stationary with respect to the intermediate roof part (103).

13. A hardtop vehicle roof according to claim 12, wherein said five link mechanism (108) includes a drive link (113) and a guide arm (132), which is part of said drive link (113) that is connected to said front roof part (102).

14. A hardtop vehicle roof according to claim 13, wherein said five link operating mechanism (108) includes another guide arm (133) to which an operating link (122) of the drive link structure (112) interconnecting the front and rear roof part operating mechanism (112) is connected.

15. A hardtop vehicle roof according to claim 14, wherein said actuating mechanism (112) includes an operating link (122) with an extension (134) which is guided by a guide arm (133) pivotally supported on said intermediate roof part (103).

16. A hardtop vehicle roof according to claim 1, wherein, in said roof part packet, said front roof part is disposed between the intermediate roof part and the rear roof part, which is disposed on top of the front roof part.

17. A hardtop vehicle roof according to claim 1, wherein, in said roof part packet, said rear roof part is disposed between said intermediate roof part and the front roof part (102) which is disposed on top.

18. A hardtop vehicle roof according to claim 1, wherein in said roof part packet, the outside of each roof part faces upwardly.